

WE CLAIM:

The embodiments of the invention in which an exclusive property or right is claimed are defined as follows:

*SJF*  
*AI*

1. An intelligibility measurement system, comprising in combination:
  - a means for hearing a speaker who is repeating items;
  - a means for comparing the items with a transcription; and
  - a means for measuring intelligibility.
  

*BI*

2. The system of Claim 1, wherein the speaker is at least one person whose intelligibility is to be measured.
  
3. The system of Claim 1, wherein a listener hears the speaker repeating the items.
  
4. The system of Claim 3, wherein the listener is a plurality of people capable of listening.
  
5. The system of Claim 1, wherein the items are words.
  
6. The system of Claim 1, wherein the transcription is a written copy of what a listener heard when the speaker repeated the items.

7. The system of Claim 1, wherein an error count is determined by comparing the items with the transcription.
8. The system of Claim 7, wherein the error count is determined by evaluating factors selected from the group consisting of word insertions, word deletions, and word substitutions.
9. The system of Claim 1, wherein an intelligibility score is determined by evaluating factors selected from the group consisting of error count, difficulty of the items, and ability of a listener.
10. The system of Claim 1, wherein Item Response Theory is used to determine an intelligibility score.
11. An intelligibility measurement system, comprising in combination:
  - a speaker that repeats items;
  - a listener that hears the speaker repeating the items; and
  - a measurement unit operable to determine an intelligibility score of the speakerusing a transcription of what the listener hears.  
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12. The system of Claim 11, wherein the speaker is at least one person whose intelligibility is to be measured.
13. The system of Claim 11, wherein the listener is a plurality of people capable of listening.
14. The system of Claim 11, wherein the listener is selected based on certain background characteristics.
15. The system of Claim 11, wherein the transcription is a written copy of what the listener heard when the speaker repeated the items.
16. The system of Claim 11, wherein the items are words.
17. The system of Claim 11, wherein an error count is determined by comparing the items with the transcription.
18. The system of Claim 17, wherein the error count is determined by evaluating factors selected from the group consisting of word insertions, word deletions, and word substitutions.
19. The system of Claim 11, wherein the intelligibility score is determined by

evaluating factors selected from the group consisting of error count, difficulty of the items, and ability of the listener.

20. The system of Claim 11, wherein the measurement unit uses Item Response Theory to determine the intelligibility score.
21. An intelligibility measurement system, comprising in combination:
  - a speaker whose intelligibility is to be measured;
  - a listener that hears the speaker repeat words; and
  - a measurement unit operable to determine an intelligibility score of the speaker using a transcription of what the listener hears, wherein the transcription is a written copy of what the listener heard when the speaker repeated the words, wherein an error count is determined by comparing the words with the transcription, and wherein the measurement unit uses Item Response Theory to determine the intelligibility score.
22. The system of Claim 21, wherein the error count is determined by evaluating factors selected from the group consisting of word insertions, word deletions, and word substitutions.
23. The system of Claim 21, wherein the intelligibility score is determined by evaluating factors selected from the group consisting of error count, difficulty of the items, and ability of the listener.

24. A method of measuring intelligibility, comprising in combination:  
obtaining responses from a speaker;  
presenting responses to a listener; and  
measuring accuracy.
25. The method of Claim 24, further comprising determining an intelligibility score.
26. The method of Claim 24, wherein the speaker is at least one person whose  
intelligibility is to be measured.
27. The method of Claim 24, wherein the responses are the speaker's repetition of  
items.
28. The method of Claim 27, wherein the items are words.
29. The method of Claim 24, wherein the listener is a plurality of people capable of  
listening.
30. The method of Claim 24, wherein the listener hears the speaker's responses.
31. The method of Claim 24, further comprising creating a transcription of what the

~~listener heard.~~

32. The method of Claim 24, further comprising determining an error count by comparing items with a transcription of what the listener heard.
33. The method of Claim 32, wherein the error count is determined by evaluating factors selected from the group consisting of word insertions, word deletions, and word substitutions.
34. The method of Claim 24, wherein the intelligibility score is determined by evaluating factors selected from the group consisting of error count, difficulty of items, and ability of the listener.
35. The method of Claim 24, wherein Item Response Theory is used to determine the intelligibility score.
36. An automated intelligibility measurement system, comprising in combination:
  - a speaker;
  - a database; and
  - a nonlinear model operable to provide an intelligibility estimate.
37. The system of Claim 36, wherein the speaker is at least one person whose

intelligibility is to be measured.

38. The system of Claim 36, wherein the database contains data from previous intelligibility evaluations.

39. The system of Claim 38, wherein the database contains data selected from the group consisting of speaker responses, items, and listener repetitions.

40. The system of Claim 36, wherein the nonlinear model is a neural network.

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